To: Card, Joan[Card.Joan@epa.gov]; Beeler, Cindy[Beeler.Cindy@epa.gov]

From: Stavnes, Sandra

Sent: Thur 3/27/2014 2:04:03 PM

Subject: FW: ES&T ASAP paper -- review of HF impacts to water resources

Vengosh et al 2014.pdf

Joan/Cindy

Thought you might be interested in this paper.

Sandy

Sandra A. Stavnes

Deputy Assistant Regional Administrator

Ecosystems Protection and Remediation (8EPR)

USEPA Region 8

1595 Wynkoop St

Denver, CO 80202

email: stavnes.sandra@epa.gov

phone: 303-312-6117

From: Oberley, Gregory

Sent: Monday, March 24, 2014 9:47 AM

To: Schmit, Ayn; Pfeiffer, Tricia; Schmidt, Andrew; Stavnes, Sandra; Hestmark, Martin; McKean,

Deborah; Miller, Johanna; Russell, Carol; Sundblad, Cindy

Subject: FW: ES&T ASAP paper -- review of HF impacts to water resources

You have probably had this emailed to you prior to this one. I highly recommend reading this paper. It captures many discussions concerning Pavillion and Mamm Crk as well as other energy development settings found in our region. Since I'm more familiar with groundwater concerns, I particularly endorse

the groundwater discussion and I'm re-reading the surface water discussion to understand those concerns better.

Take some time to review this paper!

From: Russell, Carol

Sent: Monday, March 24, 2014 7:47 AM

To: Schmit, Ayn; Oberley, Gregory; Pfeiffer, Tricia

Cc: Bloom, Judy

Subject: FW: ES&T ASAP paper -- review of HF impacts to water resources

From: Lazorchak, Jim

Sent: Wednesday, March 19, 2014 6:32 AM

To: Bergdale, Amy; Campbell, Darcy; Cox, Bill; Dellinger, Philip; Fontenot, Brian; Garcia, Al; Gieck, Stephanie; Pond, Greg; Keteles, Kristen; Kubik, Craig; Lai, Elaine; Laidlaw, Tina; Lane, Willie; Reynolds, Louis; Passmore, Margaret; McKean, Deborah; McManus, Fred; Morton, Michael; Norris, Tom; Nuhfer, Mark; Overbay, Michael; Parker, David; Pfeiffer, Tricia; Crocker, Philip; Rathbone, Colleen; Rathke, David; Russell, Carol; Schmit, Ayn; Schulman, Suzanne; Selle, Tony; Shell, Karrie-Jo; Spence, Sandra;

Tyler, Patti; Vanlerberghe, Daren; Watson, Jane

Subject: FW: ES&T ASAP paper -- review of HF impacts to water resources

Thought this might be of interest.

From: Gillespie, Andrew

Sent: Wednesday, March 19, 2014 8:16 AM

To: Lazorchak, Jim; Norton, Sue; Forshay, Ken; Nietch, Christopher; Johnson, Brent

Subject: FW: ES&T ASAP paper -- review of HF impacts to water resources

fyi

Andrew J. R. Gillespie, Ph. D.

Associate Director, EPA/ORD/NERL

From: Johnston, JohnM

Sent: Wednesday, March 19, 2014 12:42 AM **To:** Sidle, Roy; Sullivan, Kate; Kraemer, Stephen

Cc: Gillespie, Andrew

Subject: ES&T ASAP paper -- review of HF impacts to water resources

FYI – Includes subsurface risks as well as water availability.